

Project Closeout Report

Project Name: Mainframe Migration Project Phase II

Agency: ITD

Business Unit/Program Area:

Project Sponsor: Mike Ressler, Vern Welder, Dean Glatt

Project Manager: Linda Weigel

Project Description		
The purpose for the Mainframe Migration Project is to migrate existing Mainframe applications from the State's existing Mainframe environment to a new operating environment. This does not entail rewriting existing applications, but rather is a port, or migration, of existing applications to a new computing environment. The migrated applications will maintain the existing functionality, including look and feel. This project will result in the retirement of the Mainframe platform by July, 2011 provided that the Bank of North Dakota's Lender System, Legislative Council Applications and the Dept. of Human Services Medicaid Management Information System have been replaced by this date.		
Project Objectives	Measurements	
	Met/ Not Met	Description
Transfer technical resources from the Mainframe environment to those platforms on which new application are being deployed	Not Met	60% of the existing 12 Computer systems Mainframe resources (FTEs) will be transferred to non-Mainframe technologies by 2010, and the remaining 40% will be reassigned by 2012
90% of new applications run on either Windows or Linux. At present roughly 48% of ITD's Computer Systems resources are dedicated to Windows/Linux and it is imperative that more resources be devoted to these two platforms	Met	By 2012 70% or more of Computer System's total FTE resources will be devoted to the Windows/Linux platforms, with the remainder being devoted to platforms such as IBM's iSeries and AIX
Decrease in operating expenses	Not Met	Save 2,400,000/ year beginning July 2011. Running new Unix infrastructure will cost approximately 2,200,000/year. Keeping existing Mainframe system for 4 extra years will cost an average of 2,704,000/year. Financial break-even will be realized in 2016. Additional cost will be charged to Human Services and Bank of North Dakota
Application functionality will be retained with nearly identical user look and feel	Met	Application will retain the original Mainframe user interface which will be measured and accepted by the agency during the testing phase of the application migration process. Discrepancies not meeting the objective will be addressed through a training process and reported during the testing phase. Acceptance process will include a signoff procedure to percentage of applications that did not result in the objective
Application performance will be equivalent to or better than existing Mainframe performance	Met	Baseline measurements are being recorded before migration and during acceptance testing to ensure performance meets the objective. Ongoing performance will be measured throughout the migration process to ensure added workloads do not impact early migrations.
Eliminate the need to hire, train and retain staff capable of supporting a Mainframe Environment	Not Met	As applications are removed ITD will downsize the Mainframe as permitted. By July 2012 ITD will remove or outsource all existing Mainframe processing

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Schedule Objectives			
Met/ Not Met	Scheduled Completion Date	Actual Completion Date	Variance
Not Met	Original 6/15/07 moved to 5/31/08 moved to 6/30/08 moved to 6/30/09	11/30/08	165% based on August 9, 2008 transfer of final application.

Budget Objectives				
Met/ Not Met	Baseline Budget	Actual Expenditures	Variance	
Not Met	\$8,271,274	\$5,762,037	Applications Migrated:	<u>Planned</u> 84 <u>Actual</u> 46
			Percentage Completed = 55%	
			CPU Reduction:	77% 10%
			Budget Variance Based on Applications Migrated = 127%	
			Budget Variance Based on CPU Reduction = 536%	

Major Scope Changes	
<ul style="list-style-type: none"> Extension of Project timeline – September 2006 Substitution of Micro Focus JCL Engine for original product ESPBatch – January 2007 Removal of NDPERS from the migration – July 2007 Removal of DHS TECS/Vision Applications – September 2007 Removal of DOT Drivers License Application – December 2007 Removal of all of Phase IV (DHS and ITD Billing Applications) May 2008 Removal of all DOT Applications from the migration – July 2008 	

Lessons Learned	
<ul style="list-style-type: none"> A pilot should have been conducted with a limited and specific number of applications to determine the feasibility of the large project Other migration methods should have been researched After assessment was completed by the vendor, key ITD team members should have visited sites that had recently completed a similar migration to identify pitfalls and lessons learned. Original assessment team should have consisted of all ITD divisions that support the Mainframe and also look at the business side as well as the technical side The time and cost impact on Agencies should have been determined, assessed for reasonableness and communicated to each agency prior to project startup Agency acceptance test scripts should have been automated Actual Project planning should have been more in-depth and not done to a pre-established end date Project of this size and magnitude should have had dedicated resources from all affected divisions of ITD All ITD employees engaged in the project should have been required to log their time for the purpose of determining the actual impact that mainframe migration caused within ITD. Project sponsors should have used project statistics and forecasts on a regular basis to do a reality check on whether the project should progress Obtained more buy-in from the Agencies and scheduled around their constraints There was more of a learning curve for current employees who would be providing support on the new Linux environment than was anticipated When we learned that most of the applications were not going to be migrated, we should have strongly considered scrapping the Linux environment in order to eliminate the effort of maintaining two environments. Linux only running 10% of our total Cobol/Natural 	

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capacity.

Success Story

The Mainframe Migration Project was stopped prior to all predetermined applications being migrated. The project did technically prove that mainframe systems can be ported to a Linux environment. The Linux environment is in place to accommodate any future migrations should those agencies decide not to rewrite their existing mainframe applications.

Though the project was not a complete success, those departments that were migrated were done successfully and have reported favorable acceptance and results of the new environment.